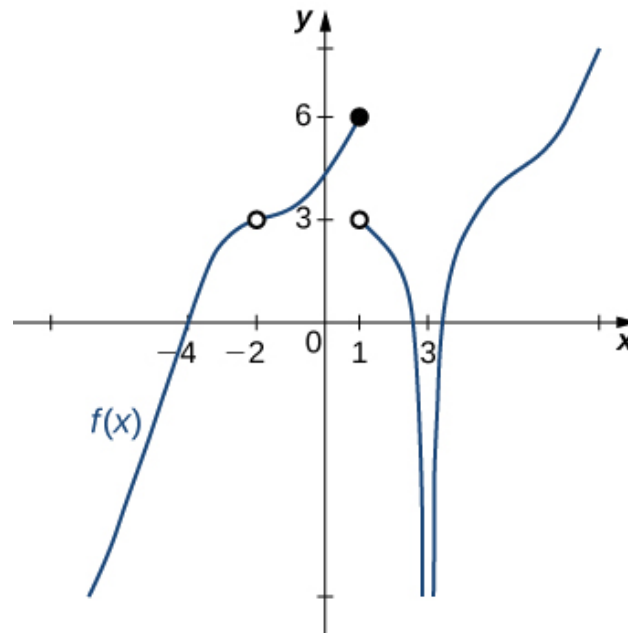1. For the graph below, evaluate the limit: $\lim\limits_{x \to 3} f(x)$.
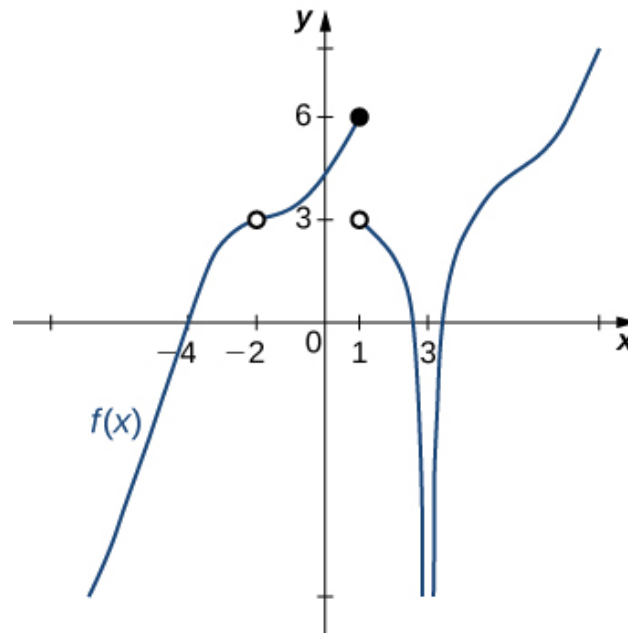

   A. $-\infty$

   B. 1

   C. -2

   D. The limit does not exist

   E. None of the above

2. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to 3^-} \frac{-8}{(x+3)^8} + 2$$

   A. $-\infty$

   B. $f(3)$

   C. ∞

   D. The limit does not exist

   E. None of the above

3. For the graph below, find the value(s) a that makes the statement true: $\lim_{x \to a} f(x)$ does not exist.

   A. 3

   B. −2

   C. 1

   D. Multiple a make the statement true.

   E. No a make the statement true.

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4. Evaluate the limit below, if possible.

$$\lim_{x \to 9} \frac{\sqrt{9x - 32} - 7}{3x - 27}$$

   A. 0.214

   B. 0.024

   C. ∞

   D. 0.071

   E. None of the above

5. Evaluate the limit below, if possible.

$$\lim_{x \to 9} \frac{\sqrt{7x - 27} - 6}{6x - 54}$$

A. ∞

B. 0.441

C. 0.097

D. 0.083

E. None of the above

6. Evaluate the one-sided limit of the function $f(x)$ below, if possible.

$$\lim_{x \to -8^+} \frac{3}{(x - 8)^7} + 2$$

A. ∞

B. $f(-8)$

C. $-\infty$

D. The limit does not exist

E. None of the above

7. To estimate the one-sided limit of the function below as x approaches 7 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{7}{x} - 1}{x - 7}$$

A. $\{6.9000, 6.9900, 7.0100, 7.1000\}$

B. $\{7.0000, 7.1000, 7.0100, 7.0010\}$

C. $\{6.9000, 6.9900, 6.9990, 6.9999\}$

D. $\{7.1000, 7.0100, 7.0010, 7.0001\}$

E. $\{7.0000, 6.9000, 6.9900, 6.9990\}$

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8. To estimate the one-sided limit of the function below as x approaches 2 from the left, which of the following sets of numbers should you use?

$$\frac{\frac{2}{x} - 1}{x - 2}$$

A. $\{2.0000, 1.9000, 1.9900, 1.9990\}$

B. $\{2.1000, 2.0100, 2.0010, 2.0001\}$

C. $\{1.9000, 1.9900, 2.0100, 2.1000\}$

D. $\{1.9000, 1.9900, 1.9990, 1.9999\}$

E. $\{2.0000, 2.1000, 2.0100, 2.0010\}$

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9. Based on the information below, which of the following statements is always true?

$f(x)$ approaches 13.089 as x approaches 7.

A. $f(7) = 13$

B. $f(13)$ is close to or exactly 7

C. $f(7)$ is close to or exactly 13

D. $f(13) = 7$

E. None of the above are always true.

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10. Based on the information below, which of the following statements is always true?

As x approaches 6, $f(x)$ approaches ∞.

A. $f(x)$ is undefined when x is close to or exactly 6.

B. $f(x)$ is close to or exactly 6 when x is large enough.

C. $f(x)$ is close to or exactly ∞ when x is large enough.

D. x is undefined when $f(x)$ is close to or exactly ∞.

E. None of the above are always true.